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OfficeHours_IS4_20160324_Seg02.pdf

Setting: this is a continuation to the previous interview about work
Participants: IS4 is the boy with glasses and a very fluffy sweater. S1 is the girl in blue.

0:00
Xxx IS4: um real process
Xxx S1: okay so c- can you tell me some (.) applications
Xxx IS4: >applications< mm
Xxx S1: you know ((stutters))
xxx that you will apply -
xxx applications where you take the
xxx knowledge that you had from this course=
xxx IS4: =in addition to the: to the parachute=
xxx S1: =yea
xxx IS4: ((subject seems pretty baffled.))
xxx ((pause))
xxx uh:
xxx let me think like like the trajectory of the spaceships
xxx S1: mhm
xxx IS4: it can it can be the
xxx one of the gravitational gravitational equations
xxx gonvern uh: govern how the spaceship will move
xxx so it- it is an equation
xxx and we can use-
xxx we can use our
xxx our maths to solve this equation
xxx and we we can finally get the trajectory of how the
xxx spaceship move.
xxx and how the
xxx another is in I think is in biology.
xxx like the number of- the number of uh species
xxx like you know
xxx uh for example if there is some deer,
xxx if there is some deers or wolves,
xxx S1: mhm
xxx IS4: uh: on uh (.)
xxx deers and wolves in a jungle
xxx and there are some a certain-
xxx a certain amount of deers
xxx and certain amount of wolves,
xxx and now we can use we can use the equations
xxx to predict how the numbers of deers and wolves.
xxx uh: vary in the future.

xxx and: (.)
xxx and-
xxx sometimes the equations will give us the deers will-
xxx will vanish.
EXA and the wolves will go high high high and unbounded
EXA high- highly.
xxx and- and sometimes else we will-
xxx w- w- will get a solution that (.)
xxx the deers will go higher and higher
xxx and the wolves will be diminished.
xxx S1: mhm
xxx IS4: and but the- but- but-
xxx but the most- but the most favorable thing we want to
xxx see is that
xxx the deers and the wolves will-
EXA ((makes balanced hand gesture))
xxx S1: balance.
xxx IS4: ((nods))
xxx yea will find a balance
xxx and will come to a equilibrium state.
xxx and their numbers will like
xxx higher lower higher lower higher lower
xxx and in this- in this time we- we can
xxx use the equations to predict how it will go.
xxx and we can use (.)
xxx and we and even more we can use- we can use
xxx the initial conditions to control their-
xxx to control their numbers.
xxx because when (.) the solutions of a- of a differential
xxx equations depends on- depends on initial condition.
xxx which means like the current number of deers and
xxx wolves.
xxx S1: mhm
3:00
xxx IS4: and if we can control this number.
xxx we can-
xxx we can we can m- make these numbers to be
xxx in our control.
xxx like (.) get a balance and this species can be-
xxx can- can live in a very healthy way.
xxx so I think that’s how-
xxx how the- (.) how the equations and numerical analysis
xxx be applied i- in biology.
xxx i- i- it there are many other applications.
xxx but uh: I think it’-s it.s everywhere in our life.

xxx so
xxx S1: but it’s so nice you know,
xxx IS4: ye
xxx S1: i- i- i- it because we don’t really know the importance
xxx of what
xxx [you do unless y- y- [you tell us
xxx IS4: [yea [yea
xxx S1: other times we just take it for granted.
xxx IS4: ((nods)) yea and-
xxx S1: and you can only say you know the number of deers and
xxx wolves are the same [because its just nature,
xxx Is4: [yea it eh:
xxx S1: we are not thinking about all the work you have been
xxx you know [have been doing to maintain this balance,
xxx IS4: [((agreement noises))
xxx S1: so uh can you think of other other interesting
xxx applications? This one is so interesting
xxx IS4: uh wh-wh- what?
Xxx S1: can you think of some other you know applications?
Xxx IS4: ah you mean that can be seen in daily lives?
Xxx S1: why not ((starts drinking water))
Xxx IS4: oo ((sits back and thinks))
Xxx applications in daily lives
Xxx space ships…
Xxx ((pause))
Xxx nothing
Xxx like in (.) finance?
Xxx S1: okay
Xxx IS4: of course math and uh partial differential equations
xxx plays a very important role in fin↑ance.
xxx wh- ma many (.2)
Xxx in Wall Street many companies are are using the- using
xxx the-
Xxx different kind of equations to predict,
Xxx how the- how the prices of the options the stocks,
Xxx or some or something else,
Xxx they they um they they use equations to predict
Xxx how the how the prices will go.
Xxx and they use this to make profits.
Xxx that that’s application and (.)
Xxx y:ea it’s.
Xxx it’s how they intelligent ones can make- can make a
Xxx much money.
Xxx S1: ((in really low voice)) yea that’s true
EXC IS4: yea applications ((breathes in)) and ((tsk))

EXC I don’t-
EXC I think there are some more
EXC but I can’t name- (.) name more now
EXC many (.) yea:.
6:00
Xxx if: (.3) ((nods)) yeah I think that’s all I-
xxx all I °(have)°
Xxx S1: ((nods)) all in mind [right now
Xxx IS4: [yea..
Xxx S1: okay um: so ah-a
Xxx so we talked about technological advances
Xxx and you told me about this nice reality uh
Xxx advancement,
xxx and it’s so cool.
Xxx can you c-c-c-an you tell me more about some:
Xxx advance:s um: (.) s- s- some somethings that are um
Xxx ((IS4 seems pretty tired and sad there are more
Xxx questions))
Xxx that are now uh (.) uh in progress that or uh
Xxx that are kind of hot (.) in China?
Xxx IS4: in China.
Xxx uh: ((makes a face))
Xxx uh ((groans)) in China
Xxx ((pause))
Xxx you mean what kind of like new uh
Xxx S1: te- tech- technologies <new technology>.
EVC IS4: technology ((brings hand to head wipes head))
EVC I don’t- I don’t think technology in China is
EVC I think the (.)
Xxx I think the most impro-
Xxx uh I think the most progress that
Xxx have made in technology is most eh
Xxx i-i- in United States.
Xxx in China I can (.)
EXC >I don’t know I don’t know<
Xxx ((pause))
Xxx yea
xxx I don’t know many-
Xxx I don’t think China has many-
Xxx as-
xxx like very important improvements right now.
Xxx S1: but the thing is.
xxx China is very industrial.
Xxx IS4: yea it is true but,((pause))
Xxx they are different because we: blocked-

Xxx it's a different world I think.
Xxx we blocked Google we blocked Facebook.
Xxx and now we are the only two countries in the world
Xxx that cannot use Google. ((laughs))
Xxx so (.) it's I think we can-
Xxx our- our search engine is just simulating Google's.
Xxx and so: it-
xxx in Google's have- have made so much,
Xxx >so much technology improvements and,<
Xxx like alpha go.
Xxx the- the robot to beat ((name)) is created by Google.
Xxx but- but in China we (.) we can ne-
Xxx in current state we cannot do (.) such a thing.
Xxx and (.) and
Xxx we still have <a- a long way to go>. an:d-
Xxx and most of the industry in China
9:00
Xxx we can- we can say it as uh- simulating of the
Xxx of the industry in United States or Europe
Xxx so: it's not (.) it's not good but
Xxx it's the case and i-it's just the current case.
Xxx yea so I do- if you want me to say some
Xxx technology (improvements) in China I cannot-
Xxx cannot say much.
xxx yea.
Xxx ((pause))
Xxx S1: alright can you just tell me just you kno:w
Xxx some other you kno:w-
xxx in- interesting technologies and uh,
Xxx can you just explain to me in plain English
Xxx <because you know> I wouldn't understand details.
Xxx IS4: ((the subject IS4 seems a bit distressed))
Xxx technology (.) uh:
Xxx I thi-
Xxx S1: new improvements
Xxx new
Xxx IS4: I think most of the
Xxx the important uh
Xxx I don't know much because the only access I get to
Xxx the technology is- is (news) so. ((laughs))
Xxx ((breaths in)) uh yea
Xxx I think we have talked about the alpha go,
Xxx we have talked about the robot,
Xxx so (.) the reality enhancement,
Xxx I think,

Xxx yea I- I- I only know this.
xxx I don’t know more.
Xxx S1: ok
Xxx so can you give me some
Xxx do you know some more details about the technical
Xxx details of the reality enhancement
Xxx are you know-
xxx designed developed?
Xxx do you have some you know technical:
Xxx you know background
Xxx on how
Xxx the-these technologies is working?
Xxx IS4: no because it is-
xxx I think this is uh kind of a [secret for
Xxx S1: [ouuu
Xxx IS4: Microsoft and it is still being developed
Xxx in their labs so:
Xxx the the the only thing that we know about it is
Xxx this video.
Xxx and this video has explosive (.) in fact on the
xxx internet.
Xxx w- everybody sees that very important thing.
Xxx but- but it is just a video now.
Xxx ((s1 nods))
Xxx so: everything else is still in the labs.
Xxx so I- I don’t-
Xxx nobody knows how it works.
Xxx so we can only wait.
Xxx S1: alright so
Xxx so going back to the point
Xxx in China you can’t use Facebook or Google.
Xxx is it easy for the government to shut dow:n,
xxx this kind of access?
Xxx IS4: I think it’s-
12:00
Xxx I think it’s easy because the:
xxx technology is very simple.
Xxx you just block some(.2) block some IP or something
xxx else,
Xxx and we can and- and Facebook and Google can disappear
Xxx in China land. um:
Xxx but I- <but I think the most important thing is to>
Xxx find a replacement of Google and
Xxx Facebook and everything else in China.
Xxx and I think- I think China is doing well in this field

Xxx we: have own search engines,
Xxx we have our own social
Xxx media, and- and now
Xxx in fact in (Chinese people are living good).
Xxx but- mm
xxx but if we want to make some-
Xxx but if we want to have some uh
Xxx some- some leading power in the industry like Google
Xxx there is a long way to go.
Xxx so tha- that's
Xxx that's how-
xxx that's the goal of these Chinese industries.
Xxx S1: what I real what I really like about it is
Xxx is like you found a way to replace (.) to exists=
Xxx IS4: =yea
Xxx S1 it- it is not really as advanced Google but still
Xxx you found the replace and uh means.
Xxx IS4: yeah because there are markets in China
Xxx and anti- there are markets and people
Xxx doing doing the ((unclear))
Xxx and make great profits in it so:,
Xxx that's another good way to- to:-
Xxx (trigger) the economics in China.
Xxx (.2) yea f- the the replacement is mo- almost
Xxx simulating the things that Googles (.) are doing.
Xxx S1: ((unclear))
Xxx IS4: so it's simple but- (.)
xxx but it really change-
xxx it really change people's lives.
Xxx so that's good!
Xxx S1: so what about hackers,
Xxx don't you have problems with hackers?
Xxx IS4: hackers?
xxx hackers is (.)-
Xxx I think ever everywhere-
Xxx every place has hackers.
Xxx and they do something good and they do something ba:d.
Xxx um: but no: (.)
Xxx I don't think they are-
Xxx they're a problem.
Xxx yea
Xxx S1: alright
Xxx let me ask a question
Xxx maybe it's not relevant to you but um:.
Xxx they say that bank-

xxx if -if- if you are using online [banking
Xxx IS4: [ye
Xxx S1: i-it's very difficult for hackers to hack into your
Xxx account.=
Xxx IS4: =yea
Xxx S1: so c-can you tell me more about that?
Xxx IS4: I don't-
xxx because I'm not-
Xxx S1: you don't-
Xxx ((both wave hands at each other and smiles))
15:00
Xxx IS4: I'm not a computer scientist student.
Xxx I'm learning math so I don't-
Xxx S1: you're learning math.
Xxx IS4: bu- but you think I'm learning stem?
Xxx S1: I don't think you're learning stem.
Xxx I think they're relevant somehow.
Xxx IS4: >yea yea yea<
Xxx now if many people-
xxx many people when learning our field will-
Xxx like will think-
Xxx everyone if he knows physics
Xxx he knows should math.
Xxx if he knows math he should know computer science,
Xxx and if he-
Xxx and maybe biology,
Xxx S1: but you are taking computational math so-
Xxx IS4: but computational math is different from computer
Xxx science you know.
Xxx computer science is to make the softwares.
Xxx S1: yea yea that's true
Xxx IS4: but computational applied math is to-
xxx to use the computers to solve the math problems.
Xxx S1: yea yea that's true.
Xxx IS4: so that's uh ((tsk)) in fact they're different.
Xxx so I don't know ((laughs)) I don't know the bank,
Xxx yeah I don't know the secret (elements) behind the-
Xxx but I think it is very safe.
Xxx since everyone-
Xxx I think almost everyone is using com- internet banking
Xxx now and(.) the:-
xxx the cases their-
xxx their account is stolen
Xxx is very (.) rare I think.
Xxx so I think it's safe.

Xxx S1: I'm sorry I'm ignorant.
Xxx IS4: ((laughs))
Xxx S1: you- you know physics you might as know math.
Xxx or you might as know computers you know how to use-
Xxx IS4: but in fact they are very different.
Xxx and in even the different colleges.
Xxx in in different departments-
Xxx S1: there is this kind of interaction you know between
xxx them.
xxx IS4: yea y:ea but-
xxx the technology details will be-
xxx one cannot know th-
xxx the details of
xxx computer science and math and physics-
xxx S1: yea that's true.
xxx IS4: mhm it's very difficult.
xxx yea so: .hhh
xxx yeah I think
xxx computer science problem is very-
xxx I- I- I- I'm not in that field.
xxx S1: okay
xxx can can you tell me
xxx can you tell me more about your field?
xxx I wanna see whether we're ((leaves again))
xxx can you tell me >just a little bit
xxx more< about your field?
xxx IS4: my field computational applied math
xxx and uh-
xxx in addition to the-
xxx in addition to appli-
xxx and uh of course no parachute topics and uh
xxx no-
xxx S1: if someone doesn't know entirely about your field.
xxx and you want to give them a brief introduction.
xxx IS4: computational applied math (.)
xxx uh: um:
18:00
xxx ((fixes mic)
xxx so: eh if I put it in a general way. (.)
xxx its just use computers
xxx to so solve math problems.
xxx and applied math problems.
xxx and it is very general because,
xxx every professor has done different things.
xxx like my professor is uh:

xxx the professor in my group is doing the parachute.
xxx and ano- another
xxx some professors are doing-
xxx ((recalls something)) doing some physics problems.
xxx yea it is also- it is also some kind of
xxx using- using computers to:
xxx solve the applied math problems.
xxx in this case the math is applied physics problems.
xxx some- some specifical physics- physics problems.
xxx an:d (.) it is very- (.)
xxx it can (covers) a very broad topics.
xxx and-
xxx some professors are doing:
xxx are doing- more theoretical aspects of.
xxx like- like just de- develop theorems to solve the- (.)
xxx to solve the equations.
xxx S1: mhm
xxx IS4: so they don't- (.) they don't take into acc-
xxx take into account the real problems.
xxx where they use physics or
xxx chemistry or
xxx or like um:
xxx or like parachutes
xxx ((S1 nods))
xxx <they don't care>
xxx they- they- they just care about the-
xxx the algori- the algorithms to- to solve the equations.
xxx S1: they're more into the theoretical?
Xxx IS4: yea
Xxx theorical yea
Xxx different professors are doing different things.
Xxx and the these things can be very different.
Xxx the only thing that I can say is that to use computers-
Xxx computers to do with the applied math problems.
Xxx S1: yea [I see
Xxx IS4: [yea
Xxx S1: ok I think we can uh stop right now
Xxx because we [uh did 50 minutes
Xxx IS4: [ok thank you
Xxx S1: ok thank you